

Lesson. In this it will be observed that the branchial plume extends right round the posterior side of the nucleus just as depicted in Lesson's original figure,¹ in d'Orbigny's representation of *Cardiopoda pedunculata*,² and also as in the only specimen in the Challenger collection. These four I am inclined to regard as females of the same species. Undoubted male *Cardiopodæ* have been figured by Eydoux and Souleyet,³ by d'Orbigny,⁴ and by Macdonald.⁵ The figure of *Cardiopoda caudina* given by Rang⁶ also I believe represents a male. In each instance it will be noticed that the branchiæ are on the anterior side of the nucleus, and as in the case of the females I think it very probable that only one species exists. If this opinion be correct the species known as *Cardiopoda caudina* and *Cardiopoda carinata* are the male, and those named *Cardiopoda placenta* and *Cardiopoda pedunculata* the females, of one and the same species.

The specimen obtained by the Challenger was captured off Arrou Island on

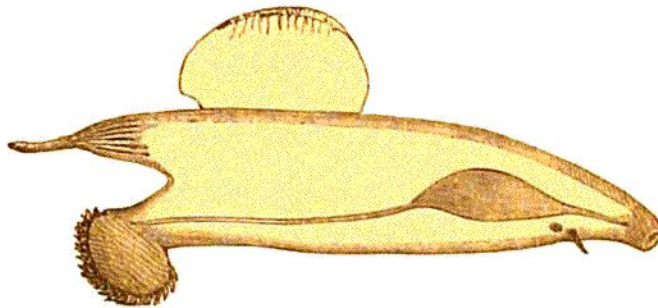


FIG. 2.—*Cardiopoda placenta*, ♀.

September 23, 1874. It is about 77 mm. in length, and has at the slender caudal extremity a small dentate sucker not nearly so large as that represented by Eydoux and Souleyet in their figure of *Cardiopoda placenta*. The tail is strengthened by muscular bands on each side as in the species of *Carinaria*, and the sucker on the ventral fin is very minute and somewhat behind the centre. It is very likely that the suckers in females will be found to be smaller than in the males, as has been shown to be the case in the species of the genus *Pterotrachea*. Besides this apparently adult example, six very small specimens representing the early stages of growth of *Cardiopoda* were obtained in the North Pacific on July 4, 1875. These are not all alike, but exhibit certain variations which may be due to difference of age or sex, but not any of them are precisely like the figures of the young as represented by Macdonald and Souleyet.

¹ Voy. "Coquille," pl. iii. fig. 2.

² Voy. Amér. mérid., pl. xi. fig. 5.

³ See *Cardiopoda caudina*, Voy. "Bonite," pl. xvii. fig. 11.

⁴ *Cardiopoda carinata*, Voy. Amér. mérid., pl. xi. fig. 4.

⁵ *Trans. Roy. Soc. Edin.*, 1862, vol. xxiii. pl. i. fig. 10.

⁶ *Mag. Zool.*, 1832, pl. v.